

PRELIMINARY ASSESSMENT REPORT
ARNESON LABOR CAMP
LYNDEN, WASHINGTON

TDD F10-8708-10

NW 2955

Report Prepared by: Ecology and Environment, Inc.
Date: September 1987

Submitted to: J.E. Osborn, Regional Project Officer
Field Operations and Technical Support Branch
U.S. Environmental Protection Agency
Region X
Seattle, Washington



ecology and environment, inc.

101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537

International Specialists in the Environment

recycled paper

USEPA SF



1566004



ecology and environment, inc.

101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537

International Specialists in the Environment

MEMORANDUM

DATE: September 15, 1987

TO: John Osborn, FIT-RPO, USEPA, Region X

THRU: David Buecker, FIT-OM, E&E, Seattle *for*

FROM: Mark Ader, FIT-SM, E&E, Seattle *for*

SUBJ: Preliminary Assessment Report for
Arnesson Labor Camp
Lynden, Washington

REF: TDD F10-8708-10

CC: Deborah Flood, HWD-SM, USEPA, Region X
Jeffrey Villnow, FIT-PM, E&E, Seattle
Thomas Tobin, E&E, Seattle

1. Introduction and Purpose of Preliminary Assessment:

Pursuant to U.S. Environmental Protection Agency (EPA) Contract No. 68-01-7347 and Technical Directive Document (TDD) F10-8708-10, Ecology and Environment, Inc. (E&E) conducted a Preliminary Assessment (PA) of the Arnesson Labor Camp Site in Lynden, Washington. The PA represents the second of a three-step assessment process which begins with Site Discovery and concludes, if necessary, with a Site Inspection. The assessment process, in general, is intended to identify, compare, and rank the potential hazards associated with a particular site relative to other sites across the nation for the purpose of identifying priority sites requiring remedial purpose of identifying priority sites requiring remedial responses. It does not include extensive or complete site characterization, contaminant fate determination, or quantitative risk assessment.

The Arnesson Labor Camp Site PA was conducted to identify potential public health and/or environmental hazards related to the site and, if present, evaluate the need for additional investigative action. The PA is based on data derived from available files and literature pertaining to the site, and communication with various state and local agencies. Information developed during the PA is summarized in Appendix A on EPA Form 2070-12.

2. Information Obtained During the PA:

- o Site Location and Description - The site is a berry farm located in northwestern Whatcom County, in the southwest quarter of Section 15, Township 40N, Range 3E, near the intersection of the Kamm and Northwood Roads, approximately one and a half miles east-northeast of the City of Lynden (Figure 1). The address for the Arnesson Labor Camp is 1331 Badger (Blaine-Sumas Highway), Lynden, Washington (1, 2).
- o Site History / Potential Problem(s) - In 1984, the EPA declared an emergency suspension of the use of pesticides containing ethylene dibromide (EDB) under the Federal Insecticide, Fungicide and Rodenticide Act. Prior to this suspension, EDB had been applied in Washington state as a soil fumigant for strawberry, raspberry, and seed potato cultivation. The Washington State Department of Ecology (Ecology) Social and Health Services (DSHS) and Agriculture identified EDB application sites in Skagit, Thurston, and Whatcom Counties that presented potential hazards to public health due to EDB contamination of aquifers that provide water to domestic and municipal wells. In response to these potential hazards, the Hazardous Waste Remedial Action Division of Ecology coordinated an investigation with DSHS and the County Health Departments to determine the extent of the EDB contamination at the identified sites, and to assess its impact (1).

The soil fumigant Terr-O-Cide 15, containing 40% EDB, was used to treat approximately 36 acres of raspberry fields from 1981 to 1983. Based on Washington State Department of Agriculture (WSDA) records, the rate of application was 18 to 20 gallons per acre annually (1). Terr-O-Cide 15 was approved for application on row and field crops up to a rate of 24.4 gallons per acre (3). Information from Bellingham-Whatcom County Health Department indicates that 68 acres within approximately one mile of the site were confirmed EDB application sites (1) (Figure 1, Table 1).

Water from the Arnesson Site well was first sampled for EDB on June 4, 1984, and again on June, 25, 1984, by the Washington Department of Social and Health Services (DSHS). The results of their analyses indicated the presence of EDB at a concentration of 1.25 and 0.990 ug/l, respectively (1).

No sampling of the Arnesson well has been done since the June 25 sampling event; however, some domestic wells in the vicinity of the site have tested positive for EDB (Table 1 and 2, Appendix B). The Arnesson Labor Camp has been notified on an annual basis to supply bottle water to their migrant workers and not to use their well for drinking water by Whatcom County Health Dept.

- o Physical and Social Environment - Land use surrounding the site is largely devoted to agriculture and dairy farming, with some residential development. The major crops grown in the area are raspberries and strawberries. Most of the residential development is located in the northwest quarter of Section 15, along Kamm Road, Northwood Road, and the Blaine-Sumas Highway (1).

The site area is located in the drainage basin of the Nooksack River, which is located to the south as shown on Figure 1. Several tributaries of the Nooksack River flow through the site area. Fishtrap Creek drains the northwestern portion of the site. Kamm Ditch (a spring fed stream) and Morman Ditch flow through the south and east sections, into a bog located just south of the railroad and then enter the Nooksack River to the southwest.

The site area terrain consists of two distinct elevation regions (Lynden Terrace and Nooksack Lowland) separated by a transition ridge of about 50 feet in relief. The Arnesson Labor Camp Site is located on the Lynden Terrace.

The geology of the site is characterized by glacially derived landforms and soils. As a result of glacial deposition, unconsolidated sediments extend to a depth of 800 to 1,200 feet. The latest glacial episode occurred during the Sumas Stade, about 11,000 years ago (1). Meltwater streams during this episode built up a recessional outwash plain of fluvial deposits known as the Lynden Terrace, in the area extending north from the site. As the Vashon glacier receded at the end of this period, the Nooksack River returned to its present course to flow over and erode the outwash deposits. The river reworked these sediments forming the Nooksack Lowlands, a broad floodplain extending south of the site (4).

A shallow, unconfined aquifer in Sumas outwash deposits of sand and gravel supplies water to the Arnesson Labor Camp well near the site, and other wells in the vicinity. Well logs indicate that the water levels for this area are within six to 33 feet of the ground surface. Recharge to the aquifer is received primarily from precipitation, which averages about 49 inches annually (1). The direction of ground water flow is to the south, toward the Nooksack River, although this may be influenced by irrigation practices in the area (4).

- o Waste Types, Quantities, and Characteristics - Until 1983, ethylene dibromide (EDB) was widely used as a soil fumigant on at least 40 crops, principally for the control of nematodes. However, the vast majority of EDB produced was used as a lead scavenger in gasoline. In 1983, the Environmental Protection Agency cancelled all major uses of EDB (5).

EDB use was confirmed by the Bellingham - Whatcom County District of Public Health in six areas within a mile and generally to the north of the site. The six plots comprise a total of 68.8 acres that have been used for raspberry cultivation. Assuming that the average rate of application conforms with the figures provided by the WSDA, the total amount of EDB applied during the 1981 - 1983 period would range between 12 and 14 metric tons (1).

EDB is regarded as a persistent and mobile pollutant. Since its vapor pressure is relatively high (11 mm Hg at 20° C.), volatilization is the major pathway for its removal from the soil. In the absence of volatilization, EDB is more slowly removed by microbial degradation. The half-life of EDB in the soil with removal by biodegradation has been determined to be less than eighteen weeks. In sterile water, EDB slowly hydrolyzes with a half-life that has been estimated by various studies to be from 1,029 days to as long as 24 years. A study by the University of Florida has estimated the half-life in ground water at 22° C. to be 550 days (1).

- o Pollutants, Mobilization, Pathways, and Risks - The application of EDB-containing pesticides is apparently responsible for the contamination of the aquifer-supplying water to the Arnesson Labor Camp well and others in the area. It is unknown to what extent the application of pesticides throughout Whatcom County may have been responsible for similar problems elsewhere (4). Due to the unconfined nature of the aquifer, the potential for contamination by substances other than EDB is present at the site.

Due to its volatility, most of the EDB applied to the soil probably has been released to the atmosphere. However, the EDB that has penetrated to the ground water may persist in detectable quantities for years. Because of EDB's toxicity and mobility, the uncontained nature of the aquifer, the multitude of potential sources of the pollutant, and the abundance of private wells in the area, it is possible that EDB contamination poses significant health risks in various areas throughout Whatcom County.

The EPA has issued a 10-day Health Advisory for EDB recommending consumption of no more than 2 liters of water per day containing 8.0 ug/l EDB. Health Advisories are developed by the EPA's Office of Drinking Water to provide informal technical guidance for the protection of public health. They indicate concentrations of drinking water contaminants at which adverse health effects are not expected to occur for specific periods of exposure. The Health Advisories include a margin of safety to protect sensitive members of the population. Health Advisories are intended to provide informal technical guidance to protect the public health; they are not legally enforceable standards. Generally, Health Advisories are developed for one-day, ten-day, longer-term (approximately seven years), and lifetime exposures for specific contaminants. Their

development is based on noncarcinogenic end points of toxicity, and do not reflect the potential carcinogenic risk of such exposures (8).

EPA has not issued a long-term Health Advisory due to the lack of adequate data, and a Lifetime Health Advisory has not been calculated due to the potential carcinogenic risk posed by EDB exposure. Based on the EPA's guidelines for the assessment of carcinogenic risk, EDB is classified in Group B2: Probable Human Carcinogen, indicating inadequate evidence from human studies, but adequate evidence from environmental studies.

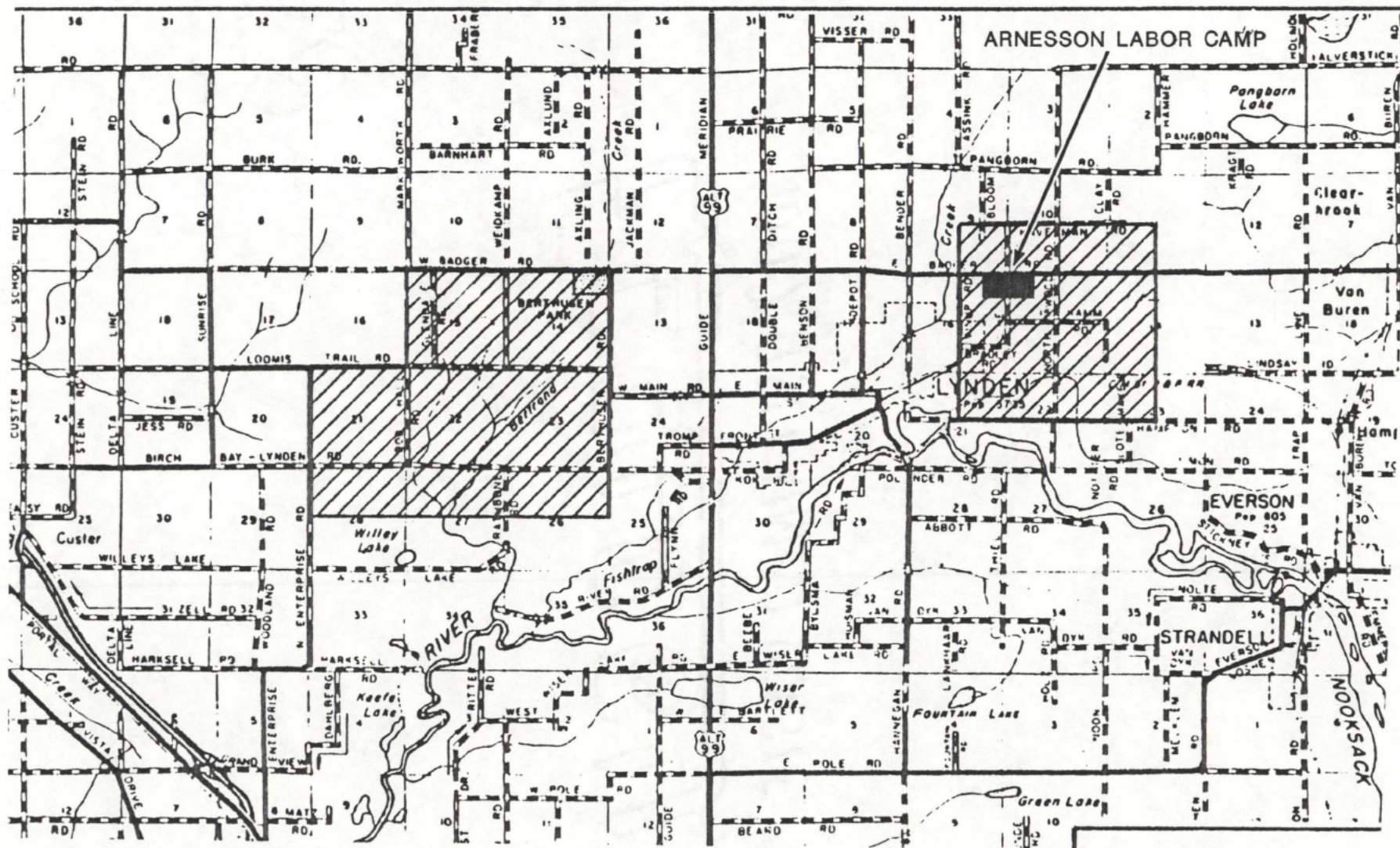
3. Priority Assessment: None

See Section 4 below.

4. Follow-up Recommendations:

According to Washington State Department of Agriculture, EDB at the Arnesson Labor Camp was applied within the legal limits. Whatcom County Health Department has notified the Arnesson Labor Camp to discontinue use of their well and directed them to supply migrant workers with bottled water.

Because no evidence of unapproved levels of application of EDB containing pesticides was discovered, continued investigation of the site under CERCLA is not indicated. However, contamination of the ground water at the site and in other wells in the area has been documented by various agencies over the past three years. This evidence also indicates that it is possible that the problem may more widespread than has been observed, warranting further study of the problem by other divisions of the EPA or state or local agencies.



0 1 2 3
scale in miles



ecology & environment, inc.

Job: F10-8708-10

Waste Site: WA 0529

Drawn by: B.T.

Date: 9/15/1987

FIGURE 1
LOCATION MAP
ARNESON LABOR CAMP
Lynden, WA

TABLE 1
WHATCOM COUNTY SITE A
CONFIRMED EDB APPLICATION AREAS

Owner Name	Location Description	Approx. Area (Acres)	Land Use	Irrigation Well
(b) (6)	NE 1/4, NE 1/4 Section 16, T40N, R3E	20.5	Raspberry Farm	Yes
	NW 1/4, NE 1/4 Section 15, T40N, R3E	15.5	Raspberry Farm	Yes
	SW 1/4, NE 1/4 Section 15, T40N, R3E	6.0	Raspberry Farm	None on Property
	SW 1/4, SW 1/4 Section 10, T40N, R3E	21.0	Raspberry Farm	Yes
	SW 1/4, SW 1/4 Section 10, T40N, R3E	2.3	Raspberry Farm	Yes
	SE 1/4, SE 1/4 Section 10, T40N, R3E	3.5	Raspberry Farm	Yes

NOTE: Confirmed application areas based on information provided by the Bellingham-Whatcom County District of Public Health.

TABLE 2
EDB GROUND WATER MONITORING
NEAR WHATCOM COUNTY SITE A

Well No.	EDB Concentration (ug/L)				
	06/04/84	06/25/84	07/23/84	09/11/84	10/30/84
9-12	NT	NT	.01	.01	NT
18	0.098	0.140	NT	NT	NT
23	NT	NT	.01	NT	NT
31	0.054	.01	.01	NT	NT
39	NT	NT	.01	NT	NT
56	NT	NT	.01	NT	NT
60	1.25	0.990	NT	NT	NT
63	NT	NT	NT	NT	.01
66	NT	NT	0.72	0.065	NT
71	.01	NT	.01	NT	NT
100	NT	NT	.01	NT	NT

NT = Not Tested

REFERENCES

1. Washington State Department of Ecology, Remedial Action Division, Office of Hazardous Substances and Air Quality, 1986, Draft: Phase I Investigation, Ethylene Dibromide Sites, Whatcom County, Olympia, Washington.
2. Personal Communication, Glen Roberts, E&E, with Martin Werner, Washington Department of Ecology, August 19-21, 1987.
3. Personal Communication, Glen Roberts, E&E, with Robert Menkle, Washington Department of Agriculture, August 21, 1987.
4. U.S. Geological Survey, Division of Water Resources, 1960, Water Resources of the Nooksack River Basin, Water Supply Bulletin No. 12.
5. U.S. Environmental Protection Agency, Office of Drinking Water, 1987, Health Advisory: Ethylene Dibromide.

APPENDIX A
EPA FORM 2070-12



ecology and environment, inc.

101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537

International Specialists in the Environment

EPA PRELIMINARY ASSESSMENT FORM 2070-12
FOR
ARNESSON LABOR CAMP
LYNDEN, WASHINGTON

TDD Number: F10-8708-10

FIT Investigator: Mark Ader

Report Prepared By: Mark Ader

Report Date: 08/25/87

Submitted to: John Osborn, RPO
Field Operations and Technical Support Branch
U.S. Environmental Protection Agency
Region X
Seattle, WA

I. IDENTIFICATION	
01 State WA	02 Site Number D980978365

01 Site Name (Legal, common, or descriptive name of site)				02 Street, Route No., or Specific Location Identifier				
Arnesson Labor Camp				1331 Badger Road				
03 City				04 State	05 Zip Code	06 County	07 County Code	08 Cong Dist
Lynden				WA	98264	Whatcom	073	02
09 Coordinates		Latitude		Longitude				
		<u>4 8 5 6 3 0.0</u>		<u>1 2 2 2 7 1 2.0</u>				
10 Directions to Site (Starting from nearest public road)								

01 Owner (if known) Same	02 Street (Business, mailing, residential)		
03 City	04 State	05 Zip Code	06 Telephone Number ()
07 Operator (if known and different from owner)	08 Street (Business, mailing, residential)		
09 City	10 State	11 Zip Code	12 Telephone Number ()
13 Type of Ownership (Check one) <input checked="" type="checkbox"/> A. Private <input type="checkbox"/> B. Federal _____ (agency name) <input type="checkbox"/> C. State <input type="checkbox"/> D. County <input type="checkbox"/> E. Municipal <input type="checkbox"/> F. Other _____ (specify) <input type="checkbox"/> G. Unknown			
14 Owner/Operator Notification on File (Check all that apply) <input type="checkbox"/> A. RCRA 3001 Date Received: / / <input type="checkbox"/> B. Uncontrolled Waste Site (CERCLA 103c) Date Received: / / <input checked="" type="checkbox"/> C. None Month Day Year Month Day Year			

01 On-Site Inspection <input checked="" type="checkbox"/> Yes Date <u>06 / 24 / 84</u> Month Day Year <input type="checkbox"/> No		<input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA Contractor <input type="checkbox"/> C. State <input type="checkbox"/> D. Other Contractor <input checked="" type="checkbox"/> E. Local Health Official <input type="checkbox"/> F. Other _____ (specify) Contractor Names(s): _____	
02 Site Status (Check one) <input type="checkbox"/> A. Active <input type="checkbox"/> B. Inactive <input checked="" type="checkbox"/> C. Unknown		03 Years of Operation Beginning Year _____ Ending Year _____ <input checked="" type="checkbox"/> Unknown	

01 Priority for Inspection (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. High (Inspection required promptly) ☐ B. Medium (Inspection required) ☐ C. Low (Inspect on time available basis) ☒ D. None (No further action needed, complete current disposition form)

01 Contact		02 Of (Agency/Organization)		03 Telephone No.	
Deborah Flood		USEPA, Region X, Superfund		(206) 442-2722	
04 Person Responsible for Assessment		05 Agency	06 Organization	07 Telephone No.	08 Date
Mark Ader		EPA/FIT	E&E, Inc.	(206) 624-9537	08 / 25 / 87
					Month Day Year

I. IDENTIFICATION

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 Physical States

(Check all that apply)

☐ A. Solid

H E. Slurry

H B. Powder, Fines

☒ F. Liquid

☐ C. Sludge

 G. Gas

☐ D. Other

(Specify)

02 Waste Quantity at Site

(Measure of waste quantities must be independent)

Tons Unknown

Cubic Yards Unknown

No. of Drums	Unknown
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
20	1
21	1
22	1
23	1
24	1
25	1
26	1
27	1
28	1
29	1
30	1
31	1
32	1
33	1
34	1
35	1
36	1
37	1
38	1
39	1
40	1
41	1
42	1
43	1
44	1
45	1
46	1
47	1
48	1
49	1
50	1
51	1
52	1
53	1
54	1
55	1
56	1
57	1
58	1
59	1
60	1
61	1
62	1
63	1
64	1
65	1
66	1
67	1
68	1
69	1
70	1
71	1
72	1
73	1
74	1
75	1
76	1
77	1
78	1
79	1
80	1
81	1
82	1
83	1
84	1
85	1
86	1
87	1
88	1
89	1
90	1
91	1
92	1
93	1
94	1
95	1
96	1
97	1
98	1
99	1
100	1

03 Waste Characteristics (Check all that apply)

☒ A. Toxic

☒ E. Soluble

☐ I. Highly Volatile

☐ B. Corrosive

<input type="checkbox"/>	F. Infectious
--------------------------	---------------

J. Explosive

☐ C. Radioactive

 G. Flammable

☐ K. Reactive

☒ D. Persistent

☐ H. Ignitable

☐ L. Incompat-
ible

<input type="checkbox"/>	M. Not Applicable
--------------------------	-------------------

III. WASTE TYPE

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)V. FEEDSTOCKS (See Appendix for CAS Numbers)

100		100
VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)		

Washington State Department of Ecology Report, Phase I Investigation, Ethylene Dibromide Sites, Whatcom County, February 26, 1986.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

1. IDENTIFICATION	
01 State WA	02 Site Number D980978365

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. Groundwater Contamination
03 Population Potentially Affected: approx. 775
02 ☒ Observed (Date: 06-24-84) ☐ Potential ☐ Alleged
04 Narrative Description

EDB contamination of ground water has been discovered in the area of application.

01 ☒ B. Surface Water Contamination
03 Population Potentially Affected: 0
02 ☐ Observed (Date:) ☒ Potential ☐ Alleged
04 Narrative Description

Several streams run through or near the area of application, presenting the opportunity for surface water contamination through runoff or ground water discharge.

01 ☐ C. Contamination of Air
03 Population Potentially Affected:
02 ☐ Observed (Date:) ☐ Potential ☐ Alleged
04 Narrative Description

None reported, observed, or suspected.

01 ☐ D. Fire/Explosive Conditions
03 Population Potentially Affected:
02 ☐ Observed (Date:) ☐ Potential ☐ Alleged
04 Narrative Description

None reported, observed, or suspected.

01 ☐ E. Direct Contact
03 Population Potentially Affected:
02 ☐ Observed (Date:) ☐ Potential ☐ Alleged
04 Narrative Description

None reported, observed, or suspected.

01 ☒ F. Contamination of Soil
03 Area Potentially Affected (Acres) 36
02 ☐ Observed (Date:) ☒ Potential ☐ Alleged
04 Narrative Description

EDB was directly injected into berry fields prior to planting root stock.

01 ☒ G. Drinking Water Contamination
03 Population Potentially Affected: approx. 775
02 ☒ Observed (Date: June-Oct. 1984) ☐ Potential ☐ Alleged
04 Narrative Description

EDB contamination of drinking water was detected during five sampling periods between June and October 1984.

01 ☐ H. Worker Exposure/Injury
03 Workers Potentially Affected:
02 ☐ Observed (Date:) ☐ Potential ☐ Alleged
04 Narrative Description

None reported, observed, or suspected.

01 ☐ I. Population Exposure/Injury
03 Population Potentially Affected:
02 ☐ Observed (Date:) ☐ Potential ☐ Alleged
04 Narrative Description

None reported, observed, or suspected.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 State WA	02 Site Number D980978365
----------------	------------------------------

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. Damage to Flora
04 Narrative Description

02 ☐ Observed (Date: _____) ☐ Potential ☐ Alleged

None reported, observed, or suspected.

01 ☐ K. Damage to Fauna
04 Narrative Description (include name(s) of species)

02 ☐ Observed (Date: _____) ☐ Potential ☐ Alleged

None reported, observed, or suspected.

01 ☐ L. Contamination of Food Chain
04 Narrative Description

02 ☐ Observed (Date: _____) ☐ Potential ☐ Alleged

None reported, observed, or suspected.

01 ☐ M. Unstable Containment of Wastes
(Spills/runoff/standing liquids, leaking drums)
03 Population Potentially Affected: _____
04 Narrative Description

02 ☐ Observed (Date: _____) ☐ Potential ☐ Alleged

None reported, observed, or suspected.

01 ☐ N. Damage to Off-site Property
04 Narrative Description

02 ☐ Observed (Date: _____) ☐ Potential ☐ Alleged

None reported, observed, or suspected.

01 ☐ O. Contamination of Sewers, Storm Drains, WWTPs
04 Narrative Description

02 ☐ Observed (Date: _____) ☐ Potential ☐ Alleged

None reported, observed, or suspected.

01 ☐ P. Illegal/Unauthorized Dumping
04 Narrative Description

02 ☐ Observed (Date: _____) ☐ Potential ☐ Alleged

None reported, observed, or suspected.

05 Description of Any Other Known, Potential, or Alleged Hazards

None reported, observed, or suspected.

III. TOTAL POPULATION POTENTIALLY AFFECTED: approx. 775

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Washington State Department of Ecology Report, Phase I Investigation, Ethylene Dibromide Sites, Whatcom County, February 26, 1986.

APPENDIX B
WELL INVENTORY

APPENDIX B

WHATCOM COUNTY SITE A WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
1	W.B. Camp & Son 1270 E. Badger Rd., Lynden	SW 1/4, SE 1/4 Sec 9, T40N R3E	B	32	10	Irrigation	
2	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 9, T40N R3E	B	30	12	Domestic/ Irrigation	1
3	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 9, T40N R3E	B			Domestic	1
4	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 9, T40N R3E	B			Domestic	1
5	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 9, T40N R3E	C			Domestic	1
6	W.B. Camp & Son 1270 E. Badger Rd., Lynden	SE 1/4, SE 1/4 Sec 9, T40N R3E	B	50	10	Irrigation	
7	W.B. Camp & Son #8 Line Road Water Assoc., 1270 E. Badger Rd., Lynden	SE 1/4, SE 1/4 Sec 9, T40N R3E	B	32	10	Domestic/ Industrial	1

*
A - Have access to well logs and field verified
B - Field verified
C - Information obtained from secondary source
D - Assumed

APPENDIX B

WHATCOM COUNTY SITE A WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
8	W.B. Camp & Son 1270 E. Badger Rd., Lynden	SE 1/4, SE 1/4 Sec 9, T40N R3E	B	32	10	Presently Capped	
9	Delta Water Association Line Rd, Lynden c/o 8858 Guide Meridian, Lynden	SE 1/4, SE 1/4 Sec 9, T40N R3E	A	36	23	Municipal Not Presently Used	See Well #12
10	Delta Water Association Line Rd., Lynden	SE 1/4, SE 1/4 Sec 9, T40N R3E	B	31	15	Municipal	See Well #12
11	Delta Water Association Line Rd., Lynden	SE 1/4, SE 1/4 Sec 9, T40N R3E	B	38	18	Municipal	See Well #12
12	Delta Water Association Line Rd., Lynden	SE 1/4, SE 1/4 Sec 9, T40N R3E	B	35	15	Municipal (Emergency Supply)	92
13	(b) (6) Lynden	SE 1/4, SE 1/4 Sec 9, T40N R3E	C			Domestic	1
14	(b) (6) Lynden	NW 1/4, SW 1/4 Sec 10, T40N R3E	B	30	10	Domestic	1
15	(b) (6) Lynden	NW 1/4, SW 1/4 Sec 10, T40N R3E	C			Domestic	1

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
16	(b) (6) Lynden	NW 1/4, SW 1/4 Sec 10, T40N R3E	B	50	10	Domestic/ Irrigation	1
17	(b) (6) Lynden	NW 1/4, SW 1/4 Sec 10, T40N R3E	C			Domestic	1
18	(b) (6) Bedlington Labor Camp Line Rd., Lynden	SW 1/4, SW 1/4 Sec 10, T40N R3E	B			Irrigation	
19	(b) (6) (b) (6) Lynden	SW 1/4, SW 1/4 Sec 10, T40N R3E	C			Irrigation	
20	(b) (6) Lynden	SW 1/4, SW 1/4 Sec 10, T40N R3E	B	30		Domestic	1
21	(b) (6) Lynden	SE 1/4, SW 1/4 Sec 10, T40N R3E	C			Domestic	1
22	(b) (6) Lynden	SE 1/4, SW 1/4 Sec 10, T40N R3E	D			Domestic	2
23	Northwood Park Water Assn 1505 E. Badger Rd., Lynden	SE 1/4, SW 1/4 Sec 10, T40N R3E	B	30	17	Municipal	

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
24	(b) (6) Lynden	NE 1/4, SW 1/4 Sec 10, T40N R3E	C			Irrigation	
25	(b) (6) Lynden	NE 1/4, SW 1/4 Sec 10, T40N R3E	D			Irrigation	
26	Covenant Christian School 9088 Northwood Rd., Lynden	NW 1/4, SE 1/4 Sec 10, T40N R3E	A	30	18	Domestic	1
27	(b) (6) Lynden	NW 1/4, SE 1/4 Sec 10, T40N R3E	B			Domestic	1
28	(b) (6) Lynden	NW 1/4, SE 1/4 Sec 10, T40N R3E	B	24	10	Domestic	1
29	(b) (6) Lynden	SW 1/4, SE 1/4 Sec 10, T40N R3E	C			Domestic	1
30	(b) (6) Lynden	SW 1/4, SE 1/4 Sec 10, T40N R3E	D			Domestic	1
31	(b) (6) McLean Berry Farm 1610 E. Badger Rd., Lynden	SE 1/4, SE 1/4 Sec 10, T40N R3E	B	32	11	Domestic/ Irrigation	1

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
32	W. B. Camp & Son E. Badger Rd., Lynden	SW 1/4, SE 1/4 Sec 10, T40N R3E	B	38	16	Irrigation	
33	(b) (6) Lynden	SE 1/4, SE 1/4 Sec 10, T40N R3E	B	30		Domestic/ Irrigation	1
34	(b) (6) Everson	SE 1/4, SE 1/4 Sec 10, T40N R3E	B	200		Domestic	1
35	(b) (6) Everson	SE 1/4, SE 1/4 Sec 10, T40N R3E	B	30		Domestic	1
36	(b) (6) Everson	SE 1/4, SE 1/4 Sec 10, T40N R3E	B	30		Domestic	1
37	(b) (6) Everson	SE 1/4, SE 1/4 Sec 10, T40N R3E	A	38	15	Domestic	1
38	(b) (6) Everson	SW 1/4, SW 1/4 Sec 11, T40N R3E	D			Domestic/ Livestock	1
39	Northwood Water Association 1918 E. Badger Rd., Everson	NW 1/4, NW 1/4 Sec 14, T40N R3E	B	17	12	Municipal	16

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
40	(b) (6) Everson	SW 1/4, NW 1/4 Sec 14, T40N R3E	B			Domestic	1
41	(b) (6) Everson	SE 1/4, NE 1/4 Sec 15, T40N R3E	B			Lawn Irrigation	1
42	(b) (6) Everson	NW 1/4, SW 1/4 Sec 14, T40N R3E	B	12		Lawn Irrigation	1
43	(b) (6) Everson	NE 1/4, NE 1/4 Sec 15, T40N R3E	B			Domestic	2
44	(b) (6) Everson	NW 1/4, NE 1/4 Sec 15, T40N R3E	B			Domestic	6
45	Whatcom Fire Dist #3 1509 E. Badger Rd., Lynden	NW 1/4, NE 1/4 Sec 15, T40N R3E	B			Domestic/ Municipal	1
46	(b) (6) Lynden	NW 1/4, NE 1/4 Sec 15, T40N R3E	B			Domestic	2
47	(b) (6) Everson	NW 1/4, NE 1/4 Sec 15, T40N R3E	B			Domestic	1

APPENDIX B

WILATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
48	(b) (6) Everson	NW 1/4, NE 1/4 Sec 15, T40N R3E	D			Irrigation	
49	(b) (6) Everson	SW 1/4, NW 1/4 Sec 15, T40N R3E	B			Domestic	1
50	(b) (6) Everson	SW 1/4, NW 1/4 Sec 15, T40N R3E	B			Domestic	1
51	(b) (6) Everson	SE 1/4, NW 1/4 Sec 15, T40N R3E	A	45	20	Domestic/ Irrigation	1
52	(b) (6) Everson	SE 1/4, NW 1/4 Sec 15, T40N R3E	C			Domestic	1
53	(b) (6) Everson	NE 1/4, NW 1/4 Sec 15, T40N R3E	A	43	29	Domestic	1
54	(b) (6) Everson	NE 1/4, NW 1/4 Sec 15, T40N R3E	A	36	22	Domestic	1
55	(b) (6) Everson	NE 1/4, NW 1/4 Sec 15, T40N R3E	D			Domestic	1

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
56	(b) (6) Everson	NE 1/4, NW 1/4 Sec 15, T40N R3E	B			Domestic	3
57	(b) (6) Lynden	NE 1/4, NW 1/4 Sec 15, T40N R3E	B			Domestic	1
58	(b) (6) Lynden	NW 1/4, NW 1/4 Sec 15, T40N R3E	D			Domestic	1
59	(b) (6) Lynden	NW 1/4, NW 1/4 Sec 15, T40N R3E	B			Domestic	1
60	(b) (6) Ameson Labor Camp 8808 Line Rd., Lynden	NW 1/4, NW 1/4 Sec 15, T40N R3E	A	49	18	Irrigation	
61	(b) (6) Lynden	NW 1/4, NW 1/4 Sec 15, T40N R3E	B		81	Domestic	1
62	(b) (6) Lynden	SW 1/4, NW 1/4 Sec 15, T40N R3E	C			Domestic	1
63	(b) (6) Lynden	SW 1/4, NW 1/4 Sec 15, T40N R3E	B			Domestic	2

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
64	(b) (6) Lynden	SE 1/4, NW 1/4 Sec 15, T40N R3E	A	47.6	33	Domestic	1
65	(b) (6) Lynden	SE 1/4, NW 1/4 Sec 15, T40N R3E	B	15	5	Domestic	1
66	Meadowdale Water Assoc. 793 Van Dyke Rd., Lynden	NE 1/4, SW 1/4 Sec 15, T40N R3E	B	21	8.5	Municipal	
67	Meadowdale Water Assoc. 793 Van Dyke Rd., Lynden	NE 1/4, SW 1/4 Sec 15, T40N R3E	B	21	14	Municipal	
68	(b) (6) Lynden	NW 1/4, SW 1/4 Sec 15, T40N R3E	A	33	12	Domestic	2
69	(b) (6) Lynden	NW 1/4, SW 1/4 Sec 15, T40N R3E	A	33.5	15	Domestic	1
70	(b) (6) Lynden	NW 1/4, SW 1/4 Sec 15, T40N R3E	B			Domestic	1

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
71	Line Road Water Assoc. 1257 E. Badger Rd., Lynden	NE 1/4, NE 1/4 Sec 16, T40N R3E	B	25	10	Municipal	6
72	(b) (6) Lynden	NE 1/4, NE 1/4 Sec 16, T40N R3E	D			Domestic	1
73	(b) (6) Lynden	NW 1/4, NE 1/4 Sec 16, T40N R3E	D			Domestic	1
74	(b) (6)	NE 1/4, NE 1/4 Sec 16, T40N R3E	C			Irrigation	
75	(b) (6) Lynden	SE 1/4, NE 1/4 Sec 16, T40N R3E	B			Domestic	1
76	(b) (6) Lynden	SE 1/4, NE 1/4 Sec 16, T40N R3E	B			Irrigation	1
77	(b) (6) Lynden	SW 1/4, NE 1/4 Sec 16, T40N R3E	D			Domestic	1
78	(b) (6) Lynden	SW 1/4, NE 1/4 Sec 16, T40N R3E	B	20+		Domestic	1

APPENDIX B

WHATCOM COUNTY SIYE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
79	(b) (6) Lynden	SW 1/4, NE 1/4 Sec 16, T40N R3E	B	28		Domestic	1
80	(b) (6) Lynden	SW 1/4, NE 1/4 Sec 16, T40N R3E	B	21		Domestic	1
81	(b) (6) Lynden	SW 1/4, NE 1/4 Sec 16, T40N R3E	B	20		Domestic	1
82	Church of the Nazarene Vinaup Rd., Lynden	NW 1/4, SE 1/4 Sec 16, T40N R3E	C			Irrigation	1
83	Church of the Nazarene Vinaup Rd., Lynden	NW 1/4, SE 1/4 Sec 16, T40N R3E	C			Domestic	1
84	(b) (6) Lynden	NW 1/4, SE 1/4 Sec 16, T40N R3E	A	33	13	Domestic	1
85	(b) (6) Lynden	NW 1/4, SE 1/4 Sec 16, T40N R3E	C			Domestic	1
86	(b) (6) Lynden	NW 1/4, SE 1/4 Sec 16, T40N R3E	A	33	14	Domestic	1

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
87	Lynden School Dist. #504 1203 Bradley Rd., Lynden	SW 1/4, SE 1/4 Sec 16, T40N R3E	C			Irrigation	1
88	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	D			Domestic	1
89	(b) (6) Lynden	SE 1/4, SE 1/4 Sec 16, T40N R3E	D			Domestic	1
90	(b) (6) Lynden	SE 1/4, SE 1/4 Sec 16, T40N R3E	B			Domestic	1
91	(b) (6) Lynden	SE 1/4, SE 1/4 Sec 16, T40N R3E	B	22		Domestic	1
92	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	B			Domestic	1
93	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	B			Domestic	1
94	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	C			Domestic	1

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
95	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	A	38	15	Domestic/ Irrigation	1
96	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	D			Domestic	1
97	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	D			Domestic	1
98	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	D			Domestic	1
99	(b) (6) Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	A	50	29	Domestic	1
100	(b) (6) KOA Campground 8717 Line Rd., Lynden	NE 1/4, SE 1/4 Sec 16, T40N R3E	A	45	21	Municipal	
101	(b) (6) Lynden	SE 1/4, NE 1/4 Sec 16, T40N R3E	A	28	6	Irrigation	1
102	(b) (6) Lynden	SE 1/4, NE 1/4 Sec 16, T40N R3E	D			Domestic	1

APPENDIX B

WHATCOM COUNTY SITE A
WELL INVENTORY

WELL NO.	OWNER NAME/PROPERTY ADDRESS	LOCATION	* INFORMATION LEVEL	WELL DEPTH (FEET)	DEPTH TO WATER (FEET)	USE	NUMBER OF HOUSEHOLDS SERVED
103	(b) (6) Lynden	SE 1/4, NE 1/4 Sec 21, T40N R3E	B			Irrigation	1
104	(b) (6) Lynden	NE 1/4, NW 1/4 Sec 22, T40N R3E	B	20		Livestock	1
105	(b) (6) Lynden	SW 1/4, NW 1/4 Sec 23, T40N R3E	C			Domestic	1